

WHAT IS CLAIMED IS:

- 1                   1.     A method for providing access to an information stream  
2     comprising:  
3                   obtaining a plurality of timestamps, each timestamp comprising an  
4     associated event marker and an associated time index referenced with respect to a time  
5     line of the information stream, wherein two or more timestamps can be associated with  
6     the same event marker;  
7                   producing segments of the information stream, each segment being  
8     associated with a timestamp and being determined based on the time index associated  
9     with the timestamp;  
10                  forming groups of segments, each group comprising those segments of the  
11     information stream whose timestamps are associated the same event marker; and  
12                  presenting a representation of each event marker and a representation of its  
13     associated group of segments, wherein the representation is arranged according to an  
14     arrangement format.
- 1                   2.     The method of claim 1 wherein the arrangement format is  
2     determined automatically, absent user-provided arrangement information.
- 1                   3.     The method of claim 1 wherein each of the event markers is  
2     uniquely represented on a sheet, wherein the arrangement format is determined according  
3     to an arrangement of the event markers on the sheet.
- 1                   4.     The method of claim 1 wherein each event marker is information  
2     produced by a user action and each associated time index is the time of occurrence of the  
3     user action.
- 1                   5.     The method of claim 4 wherein the user action is scanning of a  
2     barcode, wherein the marker is representative of the barcode that is scanned, wherein  
3     scanning the barcode more than once produces one or more time indices associated with  
4     the barcode.

1                   6.       The method of claim 4 wherein the user action is speaking a  
2 phrase, wherein the event marker is representative of a digital representation of the  
3 phrase, wherein speaking the phrase more than once produces one or more time indices  
4 associated with the digital representation of the phrase.

1                   7.       The method of claim 4 wherein the user action is a selecting a  
2 visual element with an input device, wherein the event marker is representative of the  
3 visual element, wherein selecting the visual element more than once produces one or  
4 more time indices associated with the visual element.

1                   8.       The method of claim 1 wherein each timestamp is further  
2 associated with a recording device, wherein the method is applied only to those  
3 timestamps that are associated with the same recording device.

1                   9.       The method of claim 1 wherein a segment of the information  
2 stream spans a period of time relative to an associated time index.

1                   10.      The method of claim 1 further comprising recording the  
2 information stream, wherein the timestamps are recorded at the time of recording of the  
3 information stream.

1                   11.      The method of claim 1 wherein the information stream is a  
2 previous recording, the method further comprising recording the timestamps during  
3 playback of the information stream.

1                   12.      The method of claim 1 wherein the information stream comprises  
2 one of continuous information. and discrete information.

1                   13.      The method of claim 1 wherein the step of presenting includes  
2 producing images on a display device.

1                   14.      The method of claim 1 wherein the step of presenting includes  
2 producing images on a printable medium.

1                   15.     A method for providing access to an information stream  
2     comprising:  
3                   obtaining a plurality of timestamps, each timestamp comprising an  
4     associated event marker and an associated time index referenced with respect to a time  
5     line of the information stream, wherein two or more timestamps can be associated with  
6     the same event marker;  
7                   producing segments of the information stream, each segment being  
8     associated with a timestamp and being determined based on the time index associated  
9     with the timestamp;  
10                  forming groups of segments, each group comprising those segments of the  
11     information stream whose timestamps are associated the same event marker;  
12                  receiving a source image comprising images of the event markers and  
13     annotative information proximate each event marker;  
14                  for each event marker contained in the source image, presenting a plurality  
15     of images including an image of the event marker, an image representative of the group of  
16     segments associated with the event marker; and image of the annotative information  
17     proximate the event marker, wherein the plurality of images are grouped together.

1                   16.     A method for accessing an information stream comprising:  
2                   receiving an information stream;  
3                   receiving a first marker from among a plurality of markers;  
4                   determining a time value of the first marker;  
5                   associating the first marker with a first point in time in the information  
6     stream based on the time value of the first marker;  
7                   receiving at least a second marker;  
8                   determining a time value of the second marker;  
9                   associating the second marker with a second point in time in the  
10     information stream based on the time value of the second marker; and  
11                  accessing the information stream at the first and second points in time,  
12                  wherein additional points in time in the information stream can be  
13     accessed for other markers in the plurality of markers,  
14                  wherein the same marker can appear more than once in the plurality of  
15     markers.

1                   17.     The method of claim 16 wherein receiving the information stream  
2 comprises playing back an earlier made recording.

1                   18.     The method of claim 16 wherein accessing the information stream  
2 comprises generating representative images of points in time in the information stream  
3 and forming the images on a printable medium.

1                   19.     The method of claim 16 wherein one or more of the markers are  
2 associated with a device identifier, the information stream having associated therewith a  
3 recording device with which the information stream was produced, the method further  
4 comprising using only those makers having associated device identifiers that match the  
5 recording device.

1                   20.     A device for accessing an information stream comprising a data  
2 processing component configured to perform the method steps of claim 16.

1                   21.     A device for accessing an information stream comprising:  
2                   a timing component operable to provide timing information;  
3                   an input component operable to receive an indication of an event marking  
4 action, the input component further operable to produce marker data associated with the  
5 event marking action; and  
6                   a data store component operable to receive the marker data and timing  
7 information indicative of a time of the event marking action, the data store component  
8 operable to perform steps of:  
9                   determining if the marker data is already stored;  
10                  if the marker data is not already stored, then storing the marker  
11 data and associating the timing information with the marker data; and  
12                  if the marker data is already stored, then associating the timing  
13 information with the marker data thus accumulating a plurality of timing  
14 information that is associated with the marker data.

1                   22.     The device of claim 21 wherein the marker data and its associated  
2 timing information are transmitted to a storage component that is separate from the  
3 device.

1                   23.     The device of claim 21 further comprises a storage component,  
2 wherein the marker data and its associated timing information are stored in the storage  
3 component.

1                   24.     The device of claim 21 wherein the input component is further  
2 operable to receive an indication of a playback request, wherein the marker data is  
3 transmitted for reception by a playback device.

1                   25.     The device of claim 21 wherein the timing component includes a  
2 timing input configured to receive a timing signal from an information recording device  
3 to synchronize the timing information with an information stream produced by the  
4 recording device.

1                   26.     The device of claim 25 wherein the timing signal includes a  
2 START signal to indicate a beginning point in the information stream, the time indices  
3 being associated with a portion of the information stream identified by the beginning  
4 point.

1                   27.     The device of claim 26 wherein the timing signal further includes a  
2 STOP signal to indicate an ending point in the information stream, the time indices being  
3 associated with a portion of the information stream between the beginning point and the  
4 ending point.

1                   28.     The device of claim 21 wherein the input component is a barcode  
2 scanner, and the marker data is representative of a scanned barcode.

1                   29.     The device of claim 21 wherein the input component is a voice  
2 input device, and the marker data is a representation of a spoken phrase.

1                   30.     The device of claim 21 wherein the input component is an input  
2 device operable to select a visual element, and the marker data is a representation of a  
3 selected visual element.

1                   31.     The device of claim 21 wherein the information stream has been  
2 previously recorded, wherein the timing component includes a timing input configured to  
3 receive a timing signal from a playback device, the timing information being

4 synchronized with the information stream during a playback operation of the information  
5 stream with the playback device.

1 32. The device of claim 21 wherein the information stream comprises  
2 one of a stream of continuous data and a stream of discrete data.

1 33. A device for accessing an information stream comprising:  
2 a timing component operable to provide timing information;  
3 an input component operable to receive an indication of an event marking  
4 action, the input component further operable to produce marker data associated with the  
5 event marking action and a mode selection indicator associated with the event marking  
6 action;  
7 an event processing component operable to receive the marker data and  
8 timing information indicative of a time of the event marking action,  
9 wherein, if the mode selection indicator indicates a first mode, then the  
10 event processing component transmits a signal for reception by a playback device, the  
11 signal being representative of the marker data whereby the playback device can access an  
12 information stream based on the marker data,  
13 wherein, if the mode selection indicator indicates a second mode, then the  
14 event processing component stores the marker data and associated timing information.

1 34. The device of claim 33 wherein the signal represents a previous  
2 time of occurrence of the associated marking event, wherein the playback device can  
3 access the information stream.

1 35. A processor for providing access to an information stream  
2 comprising a data processing component operable to perform the method steps of:  
3 receiving at least a first information stream;  
4 receiving a plurality of first event markers, the first event markers having  
5 timing information associated therewith;  
6 timestamping the first information stream with the first event markers,  
7 including identifying points in time in the first information stream based on the timing  
8 information associated with the event markers and associating the points in time in the  
9 first information stream with the first event markers;

10                   grouping together those points in time in the first information stream that  
11   are timestamped with the same event marker to produce one or more groups of media  
12   segments; and  
13                   presenting the groups of media segments.

1                   36.    The processor of claim 35 wherein the first event markers further  
2   have device information associated therewith, the device information being indicative of  
3   the device which produced the first information stream, wherein the step of grouping is  
4   performed on those the first event markers that are associated with the same device  
5   information.

1                   37.    The processor of claim 35 wherein presenting the groups of media  
2   segments comprises, for each group of media segments, producing an image  
3   representative of each media segment and forming the image on a printable medium.

1                   38.    The processor of claim 35 wherein the event markers are  
2   representative of scanned barcodes.

1                   39.    The processor of claim 35 wherein the event markers are  
2   representative of selected graphics.

1                   40.    The processor of claim 35 wherein the event markers are  
2   representative of spoken phrases.

1                   41.    A method for accessing an information stream comprising:  
2                   detecting a first action of reading a marker;  
3                   storing first information representative of the marker;  
4                   associating a first time value with the first information, the first time value  
5   representative of the time of the first action;  
6                   detecting a second action of reading the marker;  
7                   accessing a segment of an information stream, the segment being based on  
8   the first time value; and  
9                   presenting the segment.

1                   42.     The method of claim 41 further comprising detecting a third action  
2 of reading the marker and in response thereto associating a second time value with the  
3 first information, the second time value representative of the time of the third action; and  
4 detecting a fourth action of reading the marker and in response thereto accessing another  
5 segment of the information stream based on the second time value and presenting it.

1                   43.     A method for accessing an information stream comprising:  
2                   receiving first action of reading a first marker and in response thereto:  
3                   identifying a first time value associated with the first marker;  
4                   accessing a first segment of an information stream, the first  
5 segment being determined based on the first time value; and  
6                   forming a first image representative of the first segment;  
7                   receiving at least a second action of reading the first marker and in  
8 response thereto:  
9                   identifying a second time value associated with the first marker;  
10                  accessing a second segment of an information stream, the second  
11 segment being determined based on the second time value; and  
12                  forming a second image representative of the second segment; and  
13                  receiving third action of reading a second marker and in response thereto:  
14                  identifying a third time value associated with the third marker;  
15                  accessing a third segment of an information stream, the third  
16 segment being determined based on the third time value; and  
17                  forming a third image representative of the third segment.

1                   44.     The method of claim 43 wherein the steps of forming include  
2 presenting the respective images that are formed.

1                   45.     Apparatus for accessing an information stream comprising:  
2                   a recorder operable to produce the information stream, the information  
3 stream having first time information;  
4                   an event detector operable to detect an event-marking action and, in  
5 response thereto, to produce marking information indicative of an event marker  
6 associated with the event-marking action and to associate second time information with



7 the marking information, the second time information indicative of occurrence of the  
8 event-marking action; and  
9 a storage medium to store the marking information and the second time  
10 information for each event-marking action,  
11 wherein a plurality of event-marking actions can be store, some of the  
12 event-marking actions being associated with the same event marker but having different  
13 times of occurrence,  
14 wherein the second time information can be correlated with the first time  
15 so that each event marker can be associated with portions of the information stream.

1 46. The system of claim 45 wherein the first time information is a start  
2 signal indicative of the beginning of the information stream, wherein the second time  
3 information is relative time, measured with respect to the start signal.

1 47. The system of claim 45 wherein the first time information  
2 comprises absolute times contained in the information stream, wherein the second time  
3 information comprises absolute times.

1 48. The system of claim 45 wherein the first time information  
2 comprises absolute times contained in the information stream, wherein the second time  
3 information comprises relative times.

1 49. The system of claim 45 further comprising an output component  
2 coupled to receive the information stream and the event-marking actions, the output  
3 component operable to perform steps of:

4 obtaining a portion of the information stream based on a time of  
5 occurrence of an event-marking action;  
6 producing a representation of the portion of the information stream; and  
7 rendering the representation in a manner suitable for viewing,  
8 wherein the steps are repeated for multiple occurrences of the event-  
9 marking action.

1 50. The system of claim 49 wherein the step of rendering includes  
2 producing a display on a video display device.

1                    51.     The system of claim 49 wherein the step of rendering includes  
2     producing an image on a printable medium.

1                    52.     The system of claim 45 wherein the event marker is a barcode and  
2     the event-marking action is scanning of the barcode.

1                    53.     The system of claim 45 wherein the event marker is a  
2     representation of a spoken phrase and the event-marking action is speaking of the phrase.

1                    54.     The system of claim 45 wherein the event marker is a visual  
2     element and the event-marking action is selection of the visual element.